The mdframed package

Examples for framemethod=default

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In this document I collect various examples for framemethod=default. Some presented examples are more or less exorbitant.

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1 Loading

In the preamble only the package mdframed width the option framemethod=default is loaded. All other modifications will be done by `\mdfdefinestyle` or `\mdfsetup`.

Note
Every `\global` inside the examples is necessary to work with the package `showexpl`.

2 Examples

All examples have the following settings:

```
\mdfsetup{skipabove=\topskip ,skipbelow=\topskip}
\newrobustcmd\ExampleText{%
An \textit{inhomogeneous linear} differential equation
has the form
\begin{align}
L[v ] = f,
\end{align}
where $L$ is a linear differential operator, $v$ is
the dependent variable, and $f$ is a given non-zero
function of the independent variables alone.
}
```

Example 1 – very simple

```
\global\mdfdefinestyle{exampledefault}{%
      linecolor=red,linewidth=3pt,%
      leftmargin=1cm,rightmargin=1cm
}
\begin{mdframed}[style=exampledefault]
\ExampleText
\end{mdframed}
```

An *inhomogeneous linear* differential equation has the form

$$L[v] = f, \tag{1}$$

where L is a linear differential operator, v is the dependent variable, and f is a given non-zero function of the independent variables alone.

Example 2 – hidden line + frame title

```
\global\mdfapptodefinestyle{exampledefault}{%
 topline=false,rightline=false,bottomline=false}
\begin{mdframed}[style=exampledefault,frametitle={Inhomogeneous linear}]
\ExampleText
\end{mdframed}
```

Inhomogeneous linear

An *inhomogeneous linear* differential equation has the form

$$L[v] = f, \tag{2}$$

where L is a linear differential operator, v is the dependent variable, and f is a given non-zero function of the independent variables alone.

Example 3 – colored frame title

```
\renewcommand\mdframedtitleenv[1]{%
                    \colorbox{green}{%
                    \parbox{\linewidth}{\centering\bfseries #1}}%
                    \par\kern.5\baselineskip\noindent%
          }
\global\mdfapptodefinestyle{exampledefault}{%
    rightline=true}
\begin{mdframed}[style=exampledefault,frametitle={Inhomogeneous linear}]
\ExampleText
\end{mdframed}
```

Inhomogeneous linear

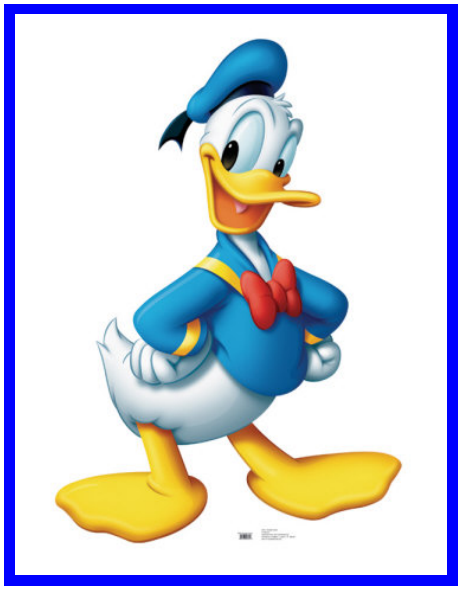
An *inhomogeneous linear* differential equation has the form

$$L[v] = f, \tag{3}$$

where L is a linear differential operator, v is the dependent variable, and f is a given non-zero function of the independent variables alone.

Example 4 – framed picture which is centered

```
\begin{mdframed}[userdefinedwidth=6cm,align=center,
                    linecolor=blue,linewidth=4pt]
\includegraphics[width=\linewidth]{donald-duck}
\end{mdframed}
```



Example 5 – theorem with separate header and the help of TikZ (complex)

```
\makeatletter
\newcounter{theo}[section]
\newcommand*\newmdframedtitleenv[1]{%
 \@afterindentfalse
  {\parindent \z@
    \setlength{\parfillskip}{\z@ plus 1fil}%
    \mdraggedtitle\nobreak%
    \makebox[\linewidth][l]{%
     \hspace*{-1\mdf@innerleftmargin@length}%
     \rlap{\color{white}%
       \hspace*{-1\mdf@middlelinewidth@length}%
       \rule[\mdf@middlelinewidth@length]%
            {\dimexpr\linewidth+1\mdf@innerleftmargin@length%
             +\mdf@innerrightmargin@length
             +2\mdf@middlelinewidth@length\relax}%
            {\dimexpr\ht\strutbox+.3333em\relax}%
     }%
     \rlap{\color{blue!20}%
       \rule{\dimexpr\linewidth+\mdf@innerleftmargin@length%
             +\mdf@innerrightmargin@length\relax}%
            {\mdf@middlelinewidth@length}}%
     \hspace*{-1\mdf@middlelinewidth@length}%
     \tikz[remember picture,baseline]%
       \node[,draw = none, text = black, fill = blue!20,]%
       {\mdf@frametitlefont\strut Theorem~\thetheo#1};\relax%
   }%
  \par\kern.5\baselineskip}%
 \@afterheading}
\newenvironment{theo}[1][]{%
  \let\mdframedtitleenv\newmdframedtitleenv%
   \stepcounter{theo}%
   \ifstrempty{#1}%
     {\mdfsetup{frametitle={\strut}}}%
     {\mdfsetup{frametitle={:~#1}}}%
   \begin{mdframed}[innertopmargin=0pt,linecolor=blue!20,%
                    linewidth=2pt,topline=false,]%
   }{\end{mdframed}}
\begin{theo}[Inhomogeneous Linear]
\ExampleText
\end{theo}

\begin{theo}
\ExampleText
\end{theo}
```

Theorem 1: Inhomogeneous Linear

An *inhomogeneous linear* differential equation has the form

$$L[v] = f, \tag{4}$$

where L is a linear differential operator, v is the dependent variable, and f is a given non-zero function of the independent variables alone.

Theorem 2

An *inhomogeneous linear* differential equation has the form

$$L[v] = f, \tag{5}$$

where L is a linear differential operator, v is the dependent variable, and f is a given non-zero function of the independent variables alone.

Example 6 – hide only a part of a line

The example below is inspired by the following post on StackExchange Theorem decorations that stay with theorem environment

```
\makeatletter
\newlength{\interruptlength}
\setlength{\interruptlength}{2.5ex}
\newrobustcmd\overlaplines{%
 \appto\md@frame@leftline@single{%
  \llap{\color{white}%
   \rule[\dimexpr-\mdfboundingboxdepth%
         \ifbool{mdf@bottomline}{-\mdf@middlelinewidth@length}{}%
        +\interruptlength\relax]%
       {\mdf@middlelinewidth@length}%
       {\dimexpr\mdfboundingboxtotalheight%
        +\ifbool{mdf@bottomline}{\mdf@middlelinewidth@length}{0pt}
        +\ifbool{mdf@topline}{\mdf@middlelinewidth@length}{0pt}%
       -2\interruptlength\relax}%
  }%
 }%
 \appto\md@frame@rightline@single{%
  \rlap{\color{white}%
    \hspace*{\mdfboundingboxwidth}%
    \hspace*{\mdf@innerrightmargin@length}%
    \rule[\dimexpr-\mdfboundingboxdepth%
          \ifbool{mdf@bottomline}{-\mdf@middlelinewidth@length}{}
          +\interruptlength\relax]%
         {\mdf@middlelinewidth@length}%
         {\dimexpr\mdfboundingboxtotalheight%
          +\ifbool{mdf@bottomline}{\mdf@middlelinewidth@length}{0pt}%
          +\ifbool{mdf@topline}{\mdf@middlelinewidth@length}{0pt}
          -2\interruptlength\relax}%
  }%
 }
}
\makeatother
\overlaplines


\begin{mdframed}[linecolor=blue,linewidth=2pt]
\ExampleText
\end{mdframed}
```

An *inhomogeneous linear* differential equation has the form

$$L[v] = f, \tag{6}$$

where L is a linear differential operator, v is the dependent variable, and f is a given non-zero function of the independent variables alone.